

REMARKS

Claims 1 and 4 have been amended to more clearly demonstrate why the present invention differs from that packaging apparatus shown in Stockley U.S. 6,408,598 (which the Examiner has used as the primary reference for rejection of all of the pending claims).

Claim 1, for instance, now sets forth that the clamping step for holding the edge of the upper film "is carried out by means of closing said chamber parts," with the upper film then being stretched laterally (i.e., toward the foregoing edge). In Applicant's invention, there is thus (1) clamping of the upper film along the edge by closing the sealing station, (2) lateral stretching, (3) then movement of the tray upwardly for sealing with the upper film.

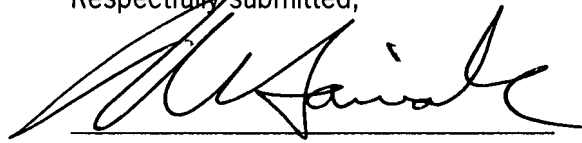
This is to be contrasted with Stockley, wherein the upper film 24 is first pulled (by vacuum), i.e., stretched across the dome of the upper part of the chamber in a manner upwardly, not laterally. Stockley's chamber is then closed — without any clamping along the "edge of the tray" as in Applicant's invention. Finally, Stockley releases the vacuum on the film for it to "drape and shrink over the product." (11, 8-10). Applicant's invention, again, clamps along the tray edge, stretches, then raises the tray for sealing, all in a manner very different from Stockley.

Similar amendments to Claim 4 have likewise been made. Both of these claims now should be found to distinguish over Stockley and the other prior art. The § 102 rejections are overcome. The § 103 rejections based upon Stockley and Sanfilippo U.S. 6,202,388 are also overcome, because Sanfilippo is merely cited for an upper film feed mechanism, gas feed and a controller, none of which features fill the voids left by the Stockley disclosure.

Applicant also submits herewith a translation of a salient portion of EP 314546. That document was previously submitted in an Information Disclosure Statement filed April 11, 2005. The amendments and remarks submitted herewith distinguish the invention from EP 314546 for many of the same salient reasons Stockley is distinguished.

A Notice of Allowance is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "M. Baniak", written over a horizontal line.

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Description of the relevant part of EP 0 314 546 A1

column 2, line 46 to column 5, line 32

This apparatus comprises an air-tight welding box, which is formed by combining two reciprocal covers 1 and 2. These can be moved along their vertical axis X-Y and they are operated by drive means, which are not shown and which allow to approach the two covers in order to close the box and to draw them apart in order to open it.

The plane in which the two covers are closed corresponds to the plane within which the thermoplastic film for closing 3 is arranged with its section 4 inside of the present apparatus. This film comes from a supply roller 5 and passes a transmission roller 6 before traversing this apparatus.

In the lower part of this a tray 7 is provided that serves as support for each packaging tray 8 when it is in the present apparatus. This tray is supported by a vertical rod drive 9 that is operated by drive means, which are not shown, in such a way that it is relocated between:

- a lower position for receiving a packaging tray, this position being at the level of a slide 10, which is located at the side of the supply of the trays 8 and on which each of the trays may slide under the effect of an appropriate drive means, for example a piston 11,
- and an upper position for welding (figure 4), this position being at the level of a slide 12 at the side which is intended for removing each tray.

The fixed slide 12 for removal is located at a distance H1 to the section 4 of the film for closing. This distance equals the height of each packaging tray, meaning the distance between its exterior edge 13 and its bottom. The supply slide 10 is located at a distance H2 to the section 4 of the film for closing. This distance is larger than the total height of a packaging tray together with a product P placed on it. The latter one projects very much over the corresponding tray, as this way of packaging is intended in the present case.

The lower cover 1 also contains a tray 14 of a lower height, which can be moved vertically. The upper edge of this tray serves as support for the edge 13 of the corresponding presentation tray 8 before the welding operation. This tray is supported by one or more rods 15 that are driven by drive means, which are not shown.

The upper cover 2 includes a welding head 16 which is hollow and the lower edge of which is suitable for welding the film 4 onto the edge 13 of a corresponding presentation tray 8. This welding head comprises appropriate heating means, for example electric resistances 18.

Inside of this welding head a heating surface 19 is provided, which is located above the film 4 for closing and parallel to it. This heating surface 19 comprises appropriate heating means, for example electric resistances. It is supported by a drive rod 20, which is driven by drive means that are not shown.

For implementing the packaging method according to the invention, the control and drive means for the diverse mobile parts of the present apparatus are designed to subsequently implement the following operations:

1. Introduction of each packaging tray into the apparatus (Figures 1 and 2):

While the reciprocal covers 1 and 2 are in a position in which they are drawn apart, so that the box is open, the piston 11 shifts the tray 8, which is waiting right there on the slide 10. This causes the transfer of it onto the support tray 7 in its lower receiving position.

2. Closing of the welding box and heating of the film for closing (Figure 3):

The two reciprocal covers 1 and 2 are brought together in such a way that the welding box is closed. The section 4 of the film for closing is now enclosed in this box and is pinched by the edges of the two covers 1 and 2. In this way an air-tight box is obtained, which is divided in two parts A and B by the film for closing 3.

It has to be noted that the tray 14 is coupled to the lower cover 1 during its movement upwards such that the support tray 7 rests motionless in its lower position. Taking into account the difference in height of the tray 14 with respect to the cover 1 the upper edge of this tray is simply placed under the peripheral edge 13 of the corresponding presentation tray 8.

After having closed the welding box 1-2, the upper part A of this box is evacuated. Afterwards the same is done with the lower part B. As a result the section 4 of the film for closing is applied onto the heating surface 19, the lower side of which is located in the plane of closing.

When the heating surface 19 is operated, as a result the corresponding section 4 of the film for closing is softened.

3. Deformation of the film for closing and welding (Figure 4):

Then, the heating surface 19 is again lifted to its upper position at the ceiling of the welding head 16. Afterwards the

support tray 7 is lifted to its upper position. The tray 14 is lifted such that its upper edge presses the peripheral edge 13 of the corresponding packaging tray 8 against the film for closing.

As a result of the lifting of the support tray 7 the product P, which is placed in the presentation tray 8 and which projects very much over the peripheral edge of it, presses against the section 4 of the film for closing, which is located there. As this section of the film is in a softened state due to its previous heating, as a result this section is deformed into the shape of a kind of pocket 21 enveloping the projecting part of the product P.

At the same time the welding head 16 guarantees by its lower edge 17 that the thermoplastic film 3 is welded onto the peripheral edge 13 of the packaging tray.

4. Accomplishment of the packaging (see Figure 5):

The vacuum existing up to now in the welding box is first removed in its part A, afterwards in its part B. This results in a thermo-formation of the corresponding section 21 of the film on the projecting part of the product P. Thus, this section of the film will adapt to the surface of the product P by forming a groove 22 at the bottom of the presentation tray.

Then, the two reciprocal covers 1 and 2 are drawn apart to open the welding box. Under these conditions the presentation tray 8, which has been closed, can be slidably transferred onto the slide 12 for removal. This transfer can be implemented by pulling the front end of the film 3 into the direction of the arrow F until the tray 8 is attached to this film. However, the transfer can also be achieved by all other appropriate means.

Then, the support tray 7 is again lowered to its lower waiting position, so that it can receive a new packaging tray to be closed.

Thus, the present method allows the packaging of a product P which projects very much over the peripheral edge 13 of the corresponding presentation tray 8. As a result the product is presented in a very attractive form to the potential buyers, because it is perfectly visible through the film for closing that smoothly envelopes it. Such a packaging method can be advantageously used for a very large number of foods, for example meat products such as ham, pasties, etc.